

IN THE CLAIMS:

1-49. (Canceled)

50. (New) A method of producing a human progenitor cell from a human ES cell, said method comprising:

obtaining a source of an undifferentiated human ES cell: and
culturing the ES cell in the presence of an antagonist of a BMP mediated default pathway of extra embryonic endoderm differentiation for a period sufficient to differentiate the ES cell to a progenitor cell, wherein said progenitor cell lacks at least one marker of said undifferentiated ES cell.

51. (New) The method according to claim 50 wherein the source of said undifferentiated human ES cell is selected from the group consisting of an embryo, a blastocyst, and a culture of undifferentiated orientated stem cells.

52. (New) The method according to claim 51 wherein the ES cell is cultured in the presence of noggin.

53. (New) The method according to claim 52 wherein the noggin is a human or mouse noggin.

54. (New) The method according to claim 52 wherein the noggin is a mouse BMP antagonist noggin comprising amino acid residues 20 to 232 of mouse noggin.

55. (New) The method according to claim 52 wherein the noggin is in the range of 100 to 500 ng/ml.

56. (New) The method according to any one of claims 50 to 55 wherein the period sufficient to differentiate the ES cell to a progenitor cell is at least 5 days and the noggin is in the range of 100 to 500 ng/ml.

57. (New) A human progenitor cell prepared by the method according to claim 50.
58. (New) The progenitor cell according to claim 57 characterised by being unreactive with any one of the antibodies including PHM4 recognising MHC Class 1 surface molecules, anti-desmin, UJ13A reactive with polysialylated N-CAM, Cam 5.2 reactive with low molecular weight cytokeratins, AMF reactive with vimentin intermediate filaments, antibody to 160 kDa neurofilament protein, GCTM-2 reactive with a proteoglycan present on the surface of ES cells, TG42.1 reactive with a 25 kDa protein which copurifies with the proteoglycan recognised by GCTM-2 and is found on stem cells and other cell types, monoclonal antibody GCTM-5 reactive with a molecule present on a small proportion of cells in spontaneously differentiating human ES cell cultures.
59. (New) A method of producing a human progenitor cell from a human ES cell, said method consisting essentially of:
- obtaining a source of an undifferentiated human ES cell and
 - culturing the ES cell in the presence of an antagonist of a BMP mediated default pathway of extra embryonic endoderm differentiation for a period sufficient to differentiate the ES cell to a progenitor cell, wherein said progenitor cell lacks at least one marker of said undifferentiated ES cell.
60. (New) The method according to claim 59 wherein the source of said undifferentiated human ES cell is selected from the group consisting of an embryo, a blastocyst, and a culture of undifferentiated orientated stem cells,
61. (New) The method according to claim 59 wherein the ES cell is cultured in the presence of noggin.
62. (New) The method according to claim 61 wherein the noggin is a human or mouse noggin.
63. (New) The method according to claim 61 wherein the noggin is a mouse BMP antagonist

noggin comprising amino acid residues 20 to 232 of mouse noggin.

64. (New) The method according to claim 61 wherein the noggin is in the range of 100 to 500 ng/ml.

65. (New) The method according to any one of claims 59 to 64 wherein the period sufficient to differentiate the ES cell to a progenitor cell is at least 5 days and the noggin is in the range of 100 to 500 ng/ml.

66. (New) A human progenitor cell prepared by the method according to claim 59.

67. (New) The progenitor cell according to claim 66 characterised by being unreactive with any one of the antibodies including PHM4 recognising MHC Class 1 surface molecules, anti-desmin, UJ13A reactive with polysialylated N-CAM, Cain 5.2 reactive with low molecular weight cytokeratins, AMF reactive with vimentin intermediate filaments, antibody to 160 kDa neurofilament protein, GCTM-2 reactive with a proteoglycan present on the surface of ES cells, TG42.1 reactive with a 25 kDa protein which copurifies with the proteoglycan recognised by GCTM-2 and is found on stem cells and other cell types, monoclonal antibody GCTM-5 reactive with a molecule present on a small proportion of cells in spontaneously differentiating human ES cell cultures.